

# World Trade Center: A longitudinal case study for treating Post Traumatic Stress Disorder with Emotional Freedom Technique and Eye Movement Desensitization and Reprocessing

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## Abstract.

**BACKGROUND:** Emotional Freedom Techniques (EFT) and Eye Movement Desensitization and Reprocessing (EMDR) have been empirically validated as effective psychotherapeutic interventions for treating Post Traumatic Stress Disorder (PTSD). This single subject design case study is of a survivor of the Twin Towers collapse who was treated for prolonged PTSD complicated by dissociated memories.

**OBJECTIVE:** EMDR and EFT's effectiveness in treating PTSD were evaluated.

**METHOD:** Multiple assessments using Trauma Symptom Inventory (TSI) and Personality combination with EMDR were conducted.

**RESULTS:** Effects of a single session of EFT assessed immediately after treatment demonstrated an elimination of clinically significant scores on both the TSI and PAI. The participant concluded treatment with nearly complete symptom remediation and a return to work.

**CONCLUSION:** The combination of treatment methods appears to be highly effective and allowed this subject to return to work after many years of disability.

Keywords: Trauma, dissociation, energy psychology, 9/11 survivor

## 1. Introduction

On September 11, 2001, the World Trade Center Towers 1 and 2 were struck by terrorist airplanes

and within a short period of time both towers fell to the ground. Digrande, et al., [1] surveyed 3,271 of the civilians who evacuated and estimated that 95% of them reported at least one current PTSD symptom three years later. Using the PTSD checklist Digrande estimated that the probable rate of PTSD was at 15%. The case study that follows is of one survivor who suffered from chronic and disabling PTSD. His successful treatment with EFT

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was subsequently combined with a modified form of EMDR, employed to facilitate the recollection of dissociated memories. The National Institute of Mental Health [2] lists the criteria for PTSD diagnosis that includes: exposure to or witnessing death, threatened death, and actual or threatened serious injury. The trauma is persistently re-experienced in intrusive thoughts, nightmares, flashbacks, emotional distress and/or physical reactivity after exposure to traumatic reminders. PTSD sufferers try to avoid trauma related thoughts, feelings or reminders. Physical symptoms can include being easily startled, experiencing hypervigilance, difficulty concentrating or sleeping, as well as irritability or aggression and risky or destructive behaviors. Mental/emotional symptoms may include overly negative thoughts and assumptions about oneself or the world, decreased interest in activities, negative affect, little positive affect, feeling isolated and difficulty remembering key features of the traumatic event. The subject in the case study experienced many of these symptoms, which severely disrupted his work and life, resulting in total disability. The combination of these two treatment methods provided a rapid and effective remediation of PTSD and could, if more widely employed, save years of lost employability, mental and physical suffering and the associated healthcare costs. In their review of trauma focused therapies for PTSD, Steenkamp, Brett, et al. [3] claim that Cognitive Processing Therapy (CPT) and prolonged exposure are the most widely studied treatments for military-related PTSD. In their review of five Randomized Controlled Trials (RCT) of CPT with 482 patients and four RCT of prolonged exposure with 402 patients, they found that 49% to 70% of participants showed “clinically meaningful symptom improvement” of 10 to 12-point decrease in symptoms, but that mean post-treatment scores remained at or above the clinical criteria for PTSD. Also reviewed were alternative treatments including: Church, Hawk, Brooks et al. [4], who showed only 10% of the veterans retaining a PTSD. Diagnosis after EFT treatment.

The present case study describes how the client’s therapist used the combination of two treatments, EMDR and EFT, to successfully treat PTSD. EFT was used alone for many of the sessions and a modified version of EMDR was sometimes employed to bring into consciousness images, cognitions and emotions of which the client was not aware. These disturbing memories were then treated with EFT.

## 2. EMDR

The successful treatment of PTSD using EMDR has been empirically validated in many randomized controlled studies and meta-analyses [5]. A review of clinical studies from 1991 to 2013 found that EMDR showed moderate to large effect sizes, in the reduction of depression, anxiety and other symptoms of PTSD. Dissociation from traumatic memories may be thought of as having an adaptive value as a response to overwhelming distress that allows for survival behaviors to be effected and for some apparently normal part of the personality to function to some degree in daily life [6]. None-the-less, its persistence when the danger is past will most likely be maladaptive [7]. Using Quantitative analysis of EEG (QEEG), Nicosia [8] demonstrated the recovery of dissociated traumatic memories and a corresponding normalization of severe temporal interhemispheric hypo-coherence in delta and theta activity after a single session of EMDR. Because EMDR has this uncanny ability to bring into consciousness information related to the target of which the client is often unaware at a conscious level, the present study employed a modified EMDR protocol to bring into consciousness previously inaccessible memories of the subject’s experience after using only EFT to address the conscious memories of the traumatic event.

### 2.1. Modified EMDR protocol used in the study

The modified EMDR procedure followed the standard setup by getting an image or other representation of the target problem, a negative cognition, positive cognition, VOC, emotion, SUDs rating and location of the disturbance in the body. Eye movements (EMs) were used to elicit previously unrecalled aspects of the traumatic experience and then instead of continuing with the EMs, EFT was used to rapidly desensitize the subject’s disturbing emotional response.

## 3. EFT protocol

The process of EFT was created by Gary Craig, a Stanford engineer. The protocol used in this case study was taken from The EFT Manual, which was freely available on the EFT website in 1995 [9]. The first published edition was in 2008 [10]. The premise upon which EFT and other meridian-based energy psychology treatments are

based is: “The cause of all negative emotions is a disruption in the body’s energy system” (Craig, 1995). Distressing memories hold the charge of this negative energy. Craig created a protocol that required tapping on specific meridian points, called acupoints.

### 3.1. Research on EFT

At the time of the case study there was very little research on EFT, although research had been conducted on Thought Field Therapy (TFT) from which EFT is derived [11]. The earliest EFT studies were done on treatment of fear [12], and phobias, [13]. The first study on the use of EFT for PTSD was in 2005 by Swingle et al. [14] who treated victims of motor vehicle accidents. Lane [15] demonstrated that acupressure treatments reduce the stress response by changing brain function, nervous system arousal, gene expression, hormone levels, neurotransmitter levels and associated brain functioning. Lane indicated that acupressure calms the fight, flight and freeze responses and replaces them with a relaxation response.

Since 2007, when the case study was conducted, there has been considerable research, including a number of reviews evidencing moderate to large effect sizes of both EFT and TFT for reducing PTSD symptoms [16, 17].

Diepold & Goldstein [18] completed a longitudinal case study using an acupoint stimulation therapy (Thought Field Therapy-Callahan technique) to examine the effectiveness in reducing traumatic symptomology. This study supported the concept that trauma-based negative emotions do have a correlated and measurable abnormal energetic effect as measured by brain wave activity (QEEG) and identified immediate positive energetic changes after treatment.

More recently, Church et al. [4] demonstrated the effectiveness of EFT treatment for PTSD with veterans in a longitudinal study in which participants were treated with 6, hour-long EFT sessions. Results, consistent with other studies, showed that subjects had significantly reduced psychological distress ( $p < 0.0012$ ) and PTSD symptom levels ( $p < 0.0001$ ) after treatment. After six months 80% of veterans treated no longer met criteria for PTSD. Geronilla et al. [19] replicated the 2013 Church study. 96% of the EFT treated group no longer met the criteria for PTSD and the symptom reduction maintained at 3 and 6-month follow-up. Minewiser [20] describes

the case report of one veteran in the replication study in detail.

In addition to demonstrating significant changes in symptomology, Church, Yount, & Brooks [21] demonstrated the beneficial effects of EFT treatment on cortisol levels, that mirrored the observed improvement in psychological distress.

Church, Yount et al. [22] looked at gene expression correlates of successful EFT treatment of PTSD with Veterans. PTSD symptoms were significantly reduced, ( $p < 0001$ ) and the differential expression of six genes was noted after 10 sessions of EFT.

In a first of its kind 2011 study, Karatzias, et al., [23] compared EMDR and EFT interventions. Each produced significant therapeutic gain in an equal number of subjects at post-treatment and follow up. A slightly higher proportion of patients in the EMDR group produced substantial clinical changes compared with the EFT group. Recent research in the area of Memory Reconsolidation [24] adds an additional perspective. The “Transformation Sequence” [25], which causes memory reconsolidation consists of:

- Vividly recalling the emotional memory or learning
- A “juxtaposition experience”: that contradicts the conclusions drawn from the original experience
- Repetition of the juxtaposition experience. (Feinstein in Ecker, 2015, p 58) [24]

The EFT Protocol provides these three steps. In the case study that follows, the therapist used a protocol from EMDR to help the client access buried memories that were associated with his PTSD.

## 4. Method

### 4.1. Subject

The client, K.N., a 43 year-old Caucasian male, had been in the World Trade Center Tower 2 working on the 44th floor as a sound engineer when Tower 1 was struck on 9/11/01. K.N. made his way down the stairs in about 15 minutes, and as he rounded the corner of the concourse, the building was struck. As he hugged the wall behind him with others crowded in fear, he could see burning chunks of the building bouncing off the ground; but, he could hear no sound. This seemed paradoxical for a man who made his living in the world of sound. This image was deeply etched into

his mind, and he lived with it every day. He recalled running up the escalator stairs, but had no recollection of hearing any sound, nor did he recall seeing any people other than seeing one man outside lying on the ground with a bloodied head. He also recalled the smell of jet fuel. K.N.'s next recollection was being across the street just staring at the burning site and all the bodies lying there. He did not know for how long he stood there, but he later found himself uptown at a bar, where he became very inebriated. Not long afterwards, K.N.'s fiancée left him. He had thrown himself into his work travelling almost every day, although he dreaded being away from home on every trip he took, including one to China. He had some counseling, but reported that it did not help. Every day, he had to, what he described as, "see through that curtain of shit. It was right there in my face every day." His jaws and fists were clenched whenever he was not thinking about them. He stated that he was always on the border of having an anxiety attack, and was just trying to keep himself from totally losing control. K.N. expressed that he was very angry about what happened. He noted that he was also across the street in 1993 when the World Trade Center was bombed, and he used to stay at the hotel in London where the bus bombing occurred. In his mind, it all seemed to fit together. K.N. continued his frenzied pace of work and travel until the struggle became too much for him, and he spiraled down in fear, anger and depression. He moved to a secluded area in central Pennsylvania where he lived for several years like a hermit, too afraid to venture very far from his home, not wanting to see people or talk to anyone, just wanting to be left alone.

On 12/4/07, K.N. was brought to this psychologist's office by his sister, who was also a trauma survivor and former client.

## 5. Procedure

Two widely validated measures of the participant's mental health were repeatedly assessed. The Traumatic Symptom Inventory (TSI) assessed the client's level of symptoms associated with PTSD. The Personality Assessment Inventory (PAI) is an extensive assessment of the client's mental health that is commonly used in determining the proper diagnosis of the client's mental status. The participant filled out a TSI [26] 17 days before his initial treatment (PRE 1), 8 days before treatment (PRE 2) when K.N. first met with this psychologist, he was also administered the

PAI [27] and his history and presenting concerns were gathered. The participant returned 8 days later (Day 1 of treatment) and completed a TSI immediately prior to his initial treatment with EFT on December 12th, 2007. He also completed another TSI and PAI immediately after this first treatment session. During the first 7 sessions K.N. was treated solely with EFT during each therapy session targeting a specific disturbing memory of his experience escaping from the 44th floor of the World Trade Center Tower 2 and/or disturbing symptoms that he had experienced since the 9/11 disaster.

The first treatment session began by using the image of burning building debris raining down outside the concourse as the target for EFT treatment. Once this image was no longer distressing, K.N.'s thoughts turned towards the anger he felt about how this experience had affected his life for these past 6 years, which became the next focal aspect for EFT treatment. Once the anger had been treated with EFT, the next aspect that arose centered on K.N.'s body sensations and the feelings of wanting to put his arms up to shield himself. This aspect was resolved and closely followed by the first of several newly emerging recovered memories that arose during this first session, specifically he recalled the police telling him not to look up, and feeling on guard. After processing this memory, K.N. described the image of a man falling head first – straight down onto the concrete pavement. Later, his palms were sweating profusely, so that also became a target for EFT treatment. After approximately an hour of treatment, the participant stated, "I could take a nap now." This concluded the first day's treatment. The client was also taught EFT for home use. After 6 structured EFT therapy sessions an abbreviated form of EMDR was employed to assist the participant in recalling repressed images and memories of the event. After these images/memories were recalled during the modified EMDR process, EFT was used to rapidly quell the distress associated with these memories.

On January 14, 2008, the first treatment session using a combination of EMDR and EFT took place. A total of 15 therapy sessions using the EMDR/EFT combination were conducted over the following 12 weeks, at which time another TSI and PAI were conducted. Six additional treatment sessions were conducted over the next four months and treatment was concluded with another round of PAI and TSI testing on August 15, 2008 – eight months after the initial treatment. Two additional long-term follow-up assessments with the TSI and PAI were conducted

Table 1  
PAI T-Scores

Scale	Subscale	11/27/07 PRE 1	12/4/07 PRE 2	12/12/07 Immediate -Post Tx	4/7/08 120 days	8/15/08 8 months	1/5/10 2 years	9/11/12 4 years
Anxiety	Cognitive		82	66	55	52	55	52
Anxiety	Affective		83	75	62	57	55	47
Anxiety	Physiological		81	69	72	55	47	52
Phobia			79	62	62	59	54	48
Traumatic Stress			77	75	55	55	58	55
Depression	Affective		80	55	55	50	61	50
Depression	Physiological		77	69	45	41	43	41

approximately two years, and four years after initial treatment.

## 6. Results

The pretreatment PAI (Moey) [27] testing revealed highly significant elevations of T-scores for traumatic stress, phobia, cognitive anxiety, as well as affective and physiological measures of both anxiety and depression. All scores that were clinically significantly elevated pretreatment dropped such that four of the measures were within normal limits. Although decreased, measures of traumatic stress and both affective anxiety and depression remained significantly elevated (see Table 1). On the 120-day testing, all measures were within normal limits except for the Anxious physiological component that was attributable to the patient's anticipatory anxiety about his imminent return to work. All PAI measures were within normal limits for all subsequent testing. Pre-treatment testing with the TSI (Briere) [26] revealed significant elevations in only the Anxious Arousal and Inconsistent Responses scales, scores of 69 and 68, respectively. Anxious Arousal reflects the extent of experienced anxiety and autonomic hyperarousal associated with PTSD or other anxiety related conditions. Inconsistent response to similar TSI items at this level reflects poor attention, concentration or dissociative disorder. These two scales of the TSI that were clinically significantly elevated in pretesting, were normalized after the first treatment.

## 7. Discussion and summary

A single session of EFT treatment was shown to be a powerful psychotherapeutic procedure that facilitates the rapid reduction of anxiety, flashbacks and other symptoms of PTSD. Successive treatments

with EFT allow for numerous aspects of complex PTSD to be addressed successfully. Despite over 100 published studies substantiating the effectiveness of Energy Psychology procedures, including EFT and TFT, these treatments have yet to gain acceptance into the mainstream health care system. A greater utilization of these largely nonverbal therapies would greatly reduce the long-term suffering that characterizes chronic PTSD as well as the associated healthcare costs and loss of competent employees in the workforce. Additional benefits of Energy Psychology treatments include: ease of application, rapid non retraumatizing desensitization of traumatic memories and triggers, and the portable use by the client. The combination of a modified EMDR procedure to elicit the recovery of repressed memories and EFT to rapidly desensitize these appear to be a highly effective combination of therapies that allowed this subject to return to his work at a world class level after many years of disability.

## Conflict of interest

None to report.

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